

Application No. 10/677,565
Reply to Office Action of March 30, 2005
Amendment Dated: August 30, 2005

REMARKS

Applicants would like to thank the Examiner for his detailed review of the application and the petition to add Mr. Koester as an inventor. In view of the cancellation of claims 8, 9, 40, 41, 87 and 88, Applicants agree that Mr. Koester should not now be added as an inventor.

On page 3 of the Office Action, the Examiner objected to the specification because of various informalities. Applicants have amended the specification as shown and believe it is now in good form.

On pages 3 and 4 of the Office Action, the Examiner rejected various claims due to various informalities. Applicants have corrected the claims as shown and believe that they are now in good form.

On pages 4 and 5 of the Office Action, the Examiner rejected claims 7, 64 – 65, 70, 73 – 74 – 77, 79, 80, 112, 113, 116, 118, 119 and 121 under 35 USC §112, second paragraph. Applicants have corrected the claims as shown and believe that they are now in good form.

On pages 6 – 7, the Examiner rejected the claims as being anticipated by Staub, Jr. '978, Hirayanagi et al. '367 and Payvar '953. The Examiner rejected claims 68 and 69 on page 6 of the Office Action as being anticipated by Staub, Jr. '978; however, Applicants believe the Examiner meant to refer to Kayama (5,038,628) and accordingly is addressing the rejection as if it were based on the Kayama reference. If the Applicants understanding is not correct, Applicants respectfully request opportunity to address any rejections based upon the reference upon which the Examiner

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intended to rely. In view of the claims as now presented and for the following reasons, Applicants believe that these claims are neither anticipated by nor obvious in view of the cited references, whether taken alone or in combination.

Staub, Jr. discloses an annular friction disc has a flat friction surface on each side of a flat steel plate with each friction surface having a plurality of radially extending grooves formed therein. Each groove has a flat bottom portion which extends between the inner and outer circumference of the friction surface and is displaced axially from the friction surface at the inner circumference and is contiguous with the friction surface at the outer circumference. Each groove also has a pair of tapered side walls extending between the bottom portion and the adjacent flat friction surface. Note Figs. 1, 2 and 4, which shows a channel or reservoir that receives fluid.

Kayama discloses a synchronizer ring for a synchronous meshing type speed change gear has a substantially conical surface and is provided with a wet frictional material which covers a major portion of the conical surface axial length, having a small diameter end spaced from the small diameter end of the conical surface. The frictional material has at least one continuous groove formed on its frictional surface and communicating with opposite ends of the synchronizer ring for conducting a flow of lubricating oil, the groove being formed at a predetermined angle relative to the generatrix of the synchronizer ring. The ring is apparently constructed such that upon frictional engagement with the speed change gear, the small diameter end of the conical surface projects axially outwardly from a corresponding end of a frictional

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engaging surface of the speed change gear by a predetermined amount, so as to facilitate receipt of oil into the groove.

Hirayanagi discloses a friction plate is constituted by a core plate, and friction members fixed respectively to opposite surfaces of the core plate. The friction member has oil passages, extending therethrough from its inner peripheral surface to its outer peripheral surface, and oil grooves which are open to the inner peripheral surface, but do not extend through the friction member. The area ratio of the oil grooves to the oil passages is 25% to 100%; and the width of the oil groove is not larger than the width of the oil passage. The length of the oil groove is not less than 1/4 of the length of the oil passage. It is not necessary that all of the oil grooves have the same length. Preferably, the width of the oil passage, as well as the width of the oil groove, is not more than 3 mm. The oil passages and the oil grooves may be inclined relative to the radial direction.

Payvar discloses a groove pattern for the friction facings of a wet clutch to equalize the face temperature of the friction facings and thus increase the thermal capacity of the clutch where there is continuous slippage. The groove pattern includes one or more circumferential grooves dividing the friction area into two or more annular bands with radial grooves in each band which increase in number from the inner band to the outer band.

Applicants note that each of the cited references fail to teach of Applicants' independent claims as now presented, all of which require a plurality of first channels or areas, at least one of which has a second channel in fluid communication therewith

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for permitting fluid to flow from a first area to a second area. The first and second channels have depths that are different.

Note also that some of the dependent claims have been amended to recite, for example, that the first channel has a depth that extends one hundred percent of the thickness of the friction material, while the second channel extends less than one hundred percent. This facilitates defining a step or smaller area through which fluid may flow over a connector which connects two walls that cooperate with the connector to define the second channel. None of the references, whether taken alone or in combination, teach of these features. In view of the foregoing, Applicants believe that these claims are now in condition for allowance, and such allowance is respectfully requested.

Applicant is filing concurrently under separate cover a request for a two month extension of time.

The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to **Deposit Account No. 50-1287**. Applicants hereby provide a general request for any extension of time which may be required at any time during the prosecution of the application. The Commissioner is also authorized to charge any fees which have not been previously paid for by check and which are required during the prosecution of this application to **Deposit Account No. 50-1287**. (Should Deposit Account No. 50-1287 be deficient, please charge any further deficiencies to Deposit Account No. 10-0220.)

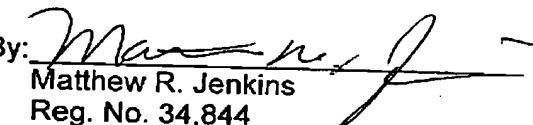
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Applicants invite the Examiner to contact the undersigned via telephone with any questions or comments regarding this case. **Applicants respectfully request an interview with the Examiner is this Amendment does not place this case in condition for allowance.**

Reconsideration and favorable action are respectfully requested.

Respectfully submitted,

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